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ABSTRACT

This report contrasts the results of a rigidly specified, pattern-oriented approach to learning Spanish with an approach that emphasizes the origination of sentences by the learner in direct response to stimuli. Pretesting and posttesting statistics are presented and conclusions are discussed. The experimental method, which required the student to originate utterances, is believed to come closer to tapping the normal human ability to abstract the rules of grammar from slight and partial evidence. A sample Spanish lesson, a description of slides used for visual stimulus, and examples of the pretest and posttest are provided. (VM)

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FINAL REPORT

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A PROPOSAL TO PLAN AND DEVELOP A SAMPLE SET OF DRILL AND TESTING MATERIALS, BASED ON AUDIO AND VISUAL ENVIRONMENTAL AND SITUATIONAL STIMULI, AIMED AT TRAINING AND TESTING IN THE CREATION OF ORIGINAL UTTERANCES BY FOREIGN LANGUAGE STUDENTS AT THE SECONDARY AND COLLEGE LEVELS

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SUMMARY

An experiment was designed in which two groups of intermediate Spanish students were offered two versions of a training session, involving situational stimuli in the form of slides and recorded items on tape. One version rather completely imitated the by-now traditional audio/lingual methods. The other sought, while maintaining strict comparability in training, to induce the subjects to create their own responses, subject to subsequent verification by approved solutions. It was anticipated that a training program based on an appeal to the abstracting and grammar-making abilities of human learners, making use of these abilities in a conscious way, would show an effect in added fluency and improved control of the language in uncontrolled situations.

Results show that the anticipated increase in appropriate and well-formed responses to novel situational stimuli occurred in one sense, but not in another. That is, in measures involving appropriateness and adequacy of response, as in containing appropriate and accurate information, the traditional (control) group improved as much or slightly more than did the experimental group. On the other hand, the measure taking account of errors (or departure from well-formedness) showed a very large superiority for the experimental group. To the extent, then, that better approximation to well-formed sentences constitutes better control of the language, the experimental program demonstrated superiority.

For various reasons it is felt that the negative, or nearly neutral, effect in the case of the positive measures may be an artifact of the test design, which may have been unduly biased in favor of the control group. However, it is believed that the error results constitute the real finding of the study.

The position is advanced that these results occurred because of the appeal to human grammar-making ability, and increased use of this ability. The discussion takes the form of rules added, modified, or completed.

INTRODUCTION

The problem proposed for investigation was the possible influence of an apparent assumption from the field of generative grammar in foreign language learning. Generative grammarians have laid importance on the notion that at least for initial language learners (babies), an adequately complete grammar of the language of exposure is acquired by the learner on the basis of what can only be described as a partial and inadequate sample. That is, the learners acquire the ability to understand and create grammatical and situationally accurate utterances which they have in all probability never heard, and thus could not have learned by memory in any direct sense, probably not even in the manner of appropriate recombination of learned partial sentences. When considered in this light the acquisition of the "grammar" of a language implies the acquisition of some sort of strategy for assembling grammatical utterances which transcends remembered or even unremembered experience. It is certainly true that native and very fluent non-native speakers of a language behave as if they have the ability to respond directly to situational stimuli with language with no observable attention to the act of assembling sentences, except when errors or noticeable stumbling occur.

It seemed possibly profitable to explore the possibility that foreign language instruction offered to essentially adult

learners made inadequate use of the obvious ability of first language learners to generalize from a small sample (if that is in any way an adequate description of the process) and to function with an as yet incomplete command of the language in direct response to situations. The structuralist approach, heavy with pattern drills and patterned analyses, appeared to rely on extensive repetition of known sequences, to the point of overlearning, with the hope that learners would be able to combine and recombine learned elements of these patterns to accord with situational necessities in an unstructured situation. It has been made clear over the years that this approach can and does work, though unhappily it appears to work best with those students who are highly motivated and already language-oriented. An impressionistic description is that such students are both able to profit directly, in terms of grammar-internalizing, from massive and structurally-revealing drills, and also interested enough to put up with the massive repetition required. Further, these students are often sufficiently skilled that they are able to extract and learn the patterns being practiced with relatively short exposure, and then can either move on or ignore further pattern practice. For those learners the acquisition process appears to bear a close resemblance to the first language process, though with greater intellectualization. Those students for whom it does not work so

well seem not to demonstrate the same kind of pattern perceiving and abstracting ability, whether because they no longer possess it or because they do not call it into play. It is the latter group which is often referred to as having lost the ability to learn a language, presumably because maturation has blocked off some abilities not normally needed after childhood. That considerable numbers of adult learners do in fact succeed at learning well one or more additional languages indicates that such a loss of language learning capability, if it exists at all, is not a universal effect of maturation.

The present study aimed at contrasting the results of a rather rigidly specified, pattern-oriented approach, typical of many of the structuralist-designed courses[1], with one which made greater use of (and a greater virtue of) the origination of sentences by the learner in direct response to stimuli in the absence of pre-formed directed responses.

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1 Such as Entender y hablar, Holt.

METHODS

Since early stages of foreign language study tend to resemble each other very much regardless of the age of the learners involved, it was concluded that the issues in the present project were more likely to be encountered in what might be termed "second level" language instruction. That is, instruction designed for students who had acquired some degree of control, some amount of vocabulary, and who were perhaps approaching a stage permitting rapid progress and/or the onset of liberation from tightly controlled drill materials. From general experience it was estimated that this level meant approximately beginning second year college courses or perhaps late second year high school courses. After testing with secondary students proved impossible, it was determined to use beginning students of Spanish 103, at the University of Rochester, some of whom had recently completed two years of high school Spanish, and some of whom had recently completed one year of Spanish at the University. They were indiscriminately mixed in the classes, and were randomly selected for the experiment.

Experimental materials included Form A and Form B of a rather lengthy sample lesson, presented to the subjects on tape through a standard set of high quality headphones (Koss Pro-4A) from an Ampex 601 recorder. The lesson texts (see Appendix A)

were accompanied by and keyed to a set of fifty-five lesson slides projected before the subject (Sawyer Rotomatic 700). The slides were identical for both test and control groups, as were the basic text sentences. A pretext and post-test, identical for both groups, were included, and presented five and fifteen additional slides respectively. Thus a total of seventy-five slide stimuli were presented. A description of their content will be offered as Appendix B.

The responses of the subjects were recorded through a microphone (Electro-Voice Model 664) on a Magnecord 1022 recorder. A monitor speaker circuit was left open, at reduced volume, both to keep the experimenter aware of the progress and quality of the tape and to be re-recorded at reduced volume on the subject-response tape so as to provide relative timing information. The subject of course could not hear this airborne version of the stimulus due to the degree of isolation afforded by the earphones and the low volume of the monitor signal. In any case, both signals were presumably simultaneous at the distance involved. The voice on the lesson tapes and in the two tests was that of Mr. D. Kenneth Johnsen, M.A., a graduate student in linguistics at the University of Rochester, who spent seventeen years as a missionary in Venezuela, and is indistinguishable from a native speaker of Spanish by anyone. He was selected for this task, rather than one of the many available native speakers, because of his familiarity with recording and

microphone techniques and his ability to carefully control speed of phonation (in the interests of uniformity) without introducing distortion in language. Spaces left on the tape for subject response were first estimated, then validated, and were timed with a stop watch to be identical on both forms.

All instructions to subjects were oral and were contained on the tape. As much as possible, consistent with experimental differences in instructions and style of drill, instructions to both groups were identical. When not identical, care was taken that they be worded in a similar fashion. With respect to each test sentence and drill answer, identical answers were provided in both Forms to each question, though presentation necessarily differed. As an example Form A instructions to part V read as follows:

> You will hear three questions about each slide. After each question you will hear an answer. Repeat the answer aloud twice.
>
> 1) a. ¿Con quién va a nadar el muchacho?
>
> Answer) Va a nadar con el hombre.

The same segment in Form B is as follows:

> The following questions ask you who is going to do what with whom. You will hear three questions about each slide. Answer each one completely in the pause provided. After the pause during which you will respond, you will hear a statement that answers the question. Repeat it aloud.
>
> 1) a. ¿Con quién va a nadar el muchacho?
>
> Answer) Va a nadar con el hombre.

Thus subjects in both groups heard the same "approved solution" in the case of each question. Clearly the intent of Form A drill and instructions was to offer little or no opportunity for the subject to fashion his own answer, instead causing him to practice the plausible and correct answer provided. The intent of the Form B drill and instructions was to force the subject to create his own answer, appropriate to the situation illustrated in the slide and called for by the question. Then, both to make more similar the training experience of both groups, and to offer an appropriate solution in the event that the subject failed to produce one or produced an unsatisfactory one, the same correct answer was offered. It is recognized that this procedure renders the experience of the two groups very similar.

EVALUATION

Evaluation of subject responses, as recorded on tape with the stimulus items, was carried out by two experienced Spanish teachers, Dr. John Oller, Jr., and Mr. Gordon Mundell, both of whom were at the time graduate students of linguistics at the University of Rochester. Both judges were kept in ignorance of which subjects represented which group, and monitored only the pretest and post-test. A rating system was devised, as follows:

1) Perfect answer, containing all relevant information, no errors, fluent: +4

2) Near perfect answer; containing all or nearly all relevant information; syntactic errors possible: +3

3) Answer lacking essential information, but containing some essential information: +2

4) Answer containing only part of essential information: +1

5) Answer not given or containing none of essential information: +0

6) Count of errors: -X

Scores were then rendered as two sequential figures, e.g., 27 - 10, indicating twenty-seven plus-points for all answers totalled, and ten minus points for total errors. Very minor errors were ignored, and pronunciation errors were scored only where they would probably have caused miscommunication in conversation with a native. Both judges' ratings were combined.

TESTS

A common pretest of five slide stimuli with appropriate recorded instructions was administered to all subjects (see Appendix C). A common post-test of fifteen slide stimuli

with appropriate recorded instructions was also administered to all subjects subsequent to the training period (see Appendix D). The same items comprising the pretest were included, scattered randomly, in the post-test. Responses to these five items have been extracted and scored separately, and will henceforth be referred to as Re-test. The complete post-test, these five items plus ten more, was scored separately, and will henceforth be referred to as Post-test. It must be recalled that Post-test includes Re-test. The ten items of Post-test which no subject had seen before were extracted and scored separately, and will henceforth be referred to as New-test. For purposes of simplicity, these tests will be labeled as Pre, Re, and New.

RESULTS

RAW SCORES:

Group A (Control)

Subject	Pre	Post	Re	New
1.	7 - 21	37 - 27	13 - 7	24 - 20
2.	9 - 9	43 - 25	14 - 6	29 - 19
3.	4 - 9	28 - 63	10 - 22	18 - 41
4.	7 - 6	42 - 15	15 - 4	27 - 11
5.	11 - 4	49 - 14	14 - 6	35 - 8
6.	6 - 4	37 - 15	12 - 5	25 - 10
7.	12 - 9	42 - 37	13 - 15	29 - 22
8.	16 - 6	50 - 11	16 - 5	34 - 6
Group B (Experimental)				
1	8 - 8	54 - 7	16 - 1	38 - 6
2.	17 - 4	46 - 17	16 - 6	30 - 9
3.	10 - 13	42 - 26	13 - 10	29 - 16
4.	16 - 6	50 - 18	18 - 6	32 - 12
5.	11 - 8	52 - 11	16 - 7	36 - 4
6.	11 - 11	53 - 5	16 - 4	37 - 1
7.	14 - 9	54 - 7	16 - 5	38 - 2
8.	14 - 8	49 - 18	16 - 9	33 - 9
9.	18 - 4	57 - 2	18 - 1	39 - 1
10.	10 - 13	51 - 7	18 - 3	33 - 4
11	4 - 4	44 - 20	14 - 5	30 - 15
12.	19 - 1	55 - 6	18 - 3	37 - 3

Figure 1

The raw data sheet just presented, since its terms have been carefully defined, obviously incorporates all the real information to be garnered from this project. However, it may be useful to consider these data in several ways, especially since certain of the results were, while not contrary to the experimenter's expectations, partially unexpected, and certainly had not been conceived of as the primary result.

First, permit me to offer an amplified presentation of Figure 1, with the addition of group totals. Further, since the sizes of the two groups accidentally came out different, a correction, or equalizing factor must be incorporated. All figures can be equalized numerically by multiplying figures for (control) Group A by three, and by multiplying figures for (experimental) Group B by two. Figure 2 incorporates these multiplications, carried out on both score and error numbers. Perhaps it would be well to remind the reader that the first figure in each entry represents the positive score rating by the judges, while the second, preceeded by a minus sign, represents the number of counted errors. Equalized figures were used in all calculations.

Group A (Control)

Subject	Pre	Post	Re	New
1.	7 - 21	37 - 27	13 - 7	24 - 20
2.	9 - 9	43 - 25	14 - 6	29 - 19
3.	4 - 9	28 - 63	10 - 22	18 - 41
4.	7 - 6	42 - 15	15 - 4	27 - 11
5.	11 - 4	49 - 14	14 - 6	35 - 8
6.	6 - 4	37 - 15	12 - 5	25 - 10
7.	12 - 9	42 - 37	13 - 15	29 - 22
8.	16 - 6	50 - 11	16 - 5	34 - 6
TOTAL	72 - 68	328 - 207	107 - 70	221 - 137
EQUALIZED	216 - 204	984 - 621	321 - 210	663 - 411

Group B (Experimental)

1.	8 - 8	54 - 7	16 - 1	38 - 6
2.	17 - 4	46 - 17	16 - 6	30 - 9
3.	10 - 4	42 - 26	13 - 10	29 - 16
4.	16 - 6	50 - 18	18 - 6	32 - 12
5.	11 - 8	52 - 11	16 - 7	36 - 4
6.	11 - 11	53 - 5	16 - 4	37 - 1
7.	14 - 9	54 - 7	16 - 5	38 - 2
8.	14 - 8	49 - 18	16 - 9	33 - 9
9.	18 - 4	57 - 2	18 - 1	39 - 1
10.	10 - 13	51 - 7	18 - 3	33 - 4
11.	4 - 4	44 - 20	14 - 5	30 - 15
12.	19 - 1	55 - 6	18 - 3	37 - 3
TOTAL	152 - 89	607 - 144	195 - 60	412 - 82
EQUALIZED	304 - 178	1214 - 288	390 - 120	824 - 164

Figure 2

Given the scoring system and the number of test items, the maximum possible scores for each test can be calculated: Pre: 20; Post: 60; Re: 20; New: 40. Thus in the two most interesting tests, Pre and New, the maximum possible group totals are (Pre) 160(A) and 240(B), (New) 320(A) and 480(B). Equalization, again multiplying A results by three, B results by two, such that Pre maximum is equalized at 480 and New maximum is equalized at 960 for both groups, discloses the following:

Pre: Equalized maximum possible score, 480.
Group A actual score, equalized: 216, or 45% of possible.
Group B actual score, equalized: 304, or 63% of possible.
Difference between A and B: 18%.

New: Equalized maximum possible score, 960.
Group A actual score, equalized: 663, or 69% of possible.
Group B actual score, equalized: 824, or 86% of possible.
Difference between A and B: 17%.

Figure 3

Clearly, the difference in the gain between the two groups is negligible in this measure, achievement in relation to the possible maximum score.

Another measure, per cent improvement in Re score over that in Pre, shows a different picture.

SCORE CHANGE, PRE TO RE

	Pre	Re	
Group A:	216	321	: Net improvement of 105.
Group B:	304	390	: Net improvement of 86.

Per cent score change

Group A: Improvement of 49%.

Group B: Improvement of 28%.

Figure 4.

It is to be recalled that Re represents repetition of precisely the same stimuli used in Pre, randomly scattered through the items of New. There are two possible explanations, both of which seem plausible, for the considerably better performance by Group A on this particular task: 1) Since Group B exhibited a generally superior entering performance level, its members had less improvement to make; 2) the training received by Group A was exactly the sort (pattern practice) calculated by standard audio/lingual methods to improve performance on repetitive, non-novel tasks. Later analysis will show that the Pre score difference between the two groups is significant. However, the comparison of Pre with Re is of only incidental interest here.

Of more interest, even in Pre to Re, is a comparison of the change in error rate.

ERROR CHANGE, PRE TO RE

	Pre	Re	
Group A:	-204	-210	: Net deterioration of 6.
Group B:	-178	-120	: Net improvement of 58.

Per cent error change

Group A: 03% increase in errors.

Group B: 32% decrease in errors.

Figure 5

Later analysis will show that the error rate difference in Pre between the two groups is not significant. The interest in this particular result lies largely in the fact that it was the first indication of what is felt to be the major outcome of the study, that the type of training regime offered Group B has a considerable effect in reducing linguistic errors and errors in appropriate verbal reaction to situational stimuli. The effect shown in Figure 5, above, is believed to be a real one, even in this relatively uninteresting comparison, since the groups turn out not to be significantly different in error rate on initial (Pre) testing, and since the trend to disparity continues and accelerates in New.

In comparing Pre to New, the change in score continues to be somewhat disappointing, possibly for the reasons suggested above, posibly not.

SCORE CHANGE, PRE TO NEW

Group A:	216	(Pre score, equalized)
	X2	(5-item Pre equalized to 10-item New)
	432	
	663	actual New score
	432	predicted New score
	231	above prediction
Group B:	304	(Pre score, equalized)
	X2	(5-item Pre equalized to 10-item New)
	608	
	824	actual New score
	608	predicted New score
	216	above prediction

Figure 6

PER CENT SCORE CHANGE, PRE TO NEW

Group A: 53% gain above prediction.

Group B: 36% gain above prediction.

Figure 7

It can be seen that the performance of the control group exceeded that of the experimental group on this measure. Admittedly, the measure is scant, but nonetheless the result opposes the initial prediction of the study. Earlier results, which showed that both groups improved in performance (as in score comparisons between Pre and Re, Figure 4) simply supported the notion that both training regimes were effective. It was already known that the A procedure was effective, since it is precisely the audio-lingual method, long in use. Thus, that the control group did well in general is not surprising. That it surpassed the experimental B group in the task for which A had received no specific training is surprising. It must be borne in mind, however, that this spectacular percentage increase in score over the experimental group is somewhat artificial, as suggested earlier, since it represents a lower absolute performance, and since the lower initial performance left room for greater improvement.

An extremely significant comparison is that between Pre and New error rates, in which the previously observed trend becomes more striking (see Figure 5).

ERROR CHANGE, PRE TO NEW

Group A:	-204	(Pre errors, equalized)
	X2	(5-item Pre equalized to 10-item New)
	-408	
	-411	actual New errors
	-408	predicted New errors
	3	worse than prediction
Group B:	-178	(Pre errors, equalized)
	X2	(5-item Pre equalized to 10-item New)
	-356	
	-356	predicted New errors
	-164	actual New errors
	192	better than prediction

Figure 8

PER CENT ERROR CHANGE, PRE TO NEW

Group A: 1% worse than prediction.

Group B: 54% better than prediction.

Figure 9

A supplemental kind of measure occurred during the course of this study. Given the small N and the occasionally great variation between individuals Ss, it seemed appropriate to inspect for individual results, as well as for totalled group results. A "quick and dirty" measure that automatically occurs is to look for any Ss who doubled, or better than doubled, their score from pretest to post-test. Inspection of results (see Figure 10) arranged so as to display Pre results, New results, and the numberical change between them revealed that in Group A only one S (#6) had achieved this result, while in Group B only two Ss (#1 and #11) had done so. As usual, however, inspection of the error results was more interesting. (See Figure 11.) Investigation of how many Ss in each group improved in their New performance over their Pre performance indicated that the B group outperformed the A group by roughtly two to one. Figure 11, below, shows that 38% of Group A improved in error rate (reduction), while 67% of Group B improved.

CHANGE IN SCORE, PRE TO NEW

		Pre (X2)	New	Change
Group A:	1.	14	24	+10
	2.	18	29	+11
	3.	8	18	+10
	4.	14	27	+13
	5.	22	35	+13
	6.	12	25	+13
	7.	24	29	+ 5
	8.	32	34	+ 2
Group B:	1.	16	38	+22
	2.	34	30	- 4
	3.	20	29	+ 9
	4.	32	32	--
	5.	22	36	+14
	6.	22	37	+15
	7.	28	38	+10
	8.	28	33	+ 5
	9.	36	39	+ 3
	10.	20	33	+13
	11.	8	30	+22
	12.	38	37	- 1

Figure 10

CHANGE IN ERRORS, PRE TO NEW

		Pre (X2)	New	Change
Group A:	1.	22	20	- 2
	2.	18	19	+ 1
	3.	18	41	+23
	4.	12	11	- 1
	5.	8	8	--
	6.	8	10	+ 2
	7.	18	22	+ 4
	8.	12	6	- 6
Group B:	1.	16	6	-10
	2.	8	9	+ 1
	3.	26	16	-10
	4.	12	12	--
	5.	16	4	-12
	6.	22	1	-21
	7.	18	2	-16
	8.	16	9	- 7
	9.	8	1	- 7
	10.	26	4	-22
	11.	8	15	+ 7
	12.	1	3	+ 2

(+ equals errors added, or worse performance)

Figure 11

T-tests for significance were performed on a number of measures[2]. Testing for 18 degrees of freedom[3] gave results as follows:

1) Test for significance of difference between groups A and B on <u>score</u>, <u>Pre</u>: Significant at the 95 - 97.5% level.

2) Test for significance of difference between groups A and B on <u>score</u>, <u>New</u>: Significant at the 99.5% level.

3) Test for significance of difference between groups A and B on <u>errors</u>, <u>Pre</u>: Not significant.

4) Test for significance of difference between groups A and B on <u>errors</u>, <u>New</u>: Significant at the 95 - 97.5% level.

5) Test for significance of difference in error rate between groups A and B, as changed from <u>Pre</u> to <u>New</u>: Significant at the 95% level.

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2 Grateful acknowledgment for assistance with statistical analysis is made to Dr. Mendu R. Rao and to Dr. Clinton B. Walker of the University of Rochester.

3 $$T_{18} = \frac{(\bar{X}_A - \bar{X}_B)}{\sqrt{S^2 \left(\frac{1}{8} + \frac{1}{12} \right)}}$$

Since score results are nebulous, it will be seen that the most interesting results of this analysis are points 3), 4), and 5), above, wherein the groups differed nonsignificantly in entering error rates, while after the training session the experimental group had gained in a strikingly significant fashion over the control group.

CONCLUSIONS

Contrary to expectations, this study did not reveal significant improvements in the judged ability to respond fluently and appropriately directly to a situation, with "novel" utterances. In fact, as has been seen, the control group improved slightly more than the experimental in its responses to novel stimuli, which formed the post-test. It is believed that the hypothesis should not be abandoned, however, nor should the notion of specific training in responding to novel situational stimuli. It has been suggested earlier that there may be two explanations for this score result: the accident of the superior entering performance of the experimental group, which simply left less room for improvement, or an error in the design of the training program, and perhaps in the design of the post-test, in which inadequate opportunity for differentiation along the predicted lines was allowed. The experimental design favored, if anyone, the control group, and it is at least possible that this was overdone. Clearly, both the rigidly controlled (classic audio-lingual) training program and the experimental program, which placed more emphasis on origination of appropriate utterances, led to learning. If one were to assume, for the moment, that the superior entering performance of the experimental group were a plausible explanation for a greater rate of learning by the control group, then one

would like to say that both methods produced learning at approximately the same rate. Were this the only result, the project would only have proved that the audio-lingual approach leads to learning, and that a less controlled and more innovative approach also leads to learning, and is - under the most unfavorable condition - only slightly inferior to the former. The statistical consultants have stated that the experiment appeared to be well designed, and did not tend to favor the experimental group.

But the score results were not the only outcome, and certainly not the striking outcome. One may reject all the above as strained and implausible, but it is believed that the error rate results constitute the real finding of the project. In a sense this outcome was anticipated, in that superior control of language in response to novel situational stimuli was predicted, and superior control automatically includes fewer errors. But the experimental training program appears to be substantially more powerful in this regard than had been predicted, since quite obvious results, not even needing statistical analysis, appeared in the data as a result of a relatively short training session. It has already been suggested that the difference between the training regimes was minimal, and that this constituted a perhaps excessive handicap for the experimental program. Even so, the obvious effect of the experimental program is unmistakably clear.

From the standpoint of linguistics, the effect of the experimental training regime in significantly reducing error rates would seem best explained by the notion of acquisition of rules of grammar. As suggested in the introduction, a speaker of a language has acquired a competency for making grammatical and appropriate utterances in the language. A native speaker presumably has a complete grammar of the language, such that he can make indefinitely many grammatical utterances, with only occasional slips (tips of the slung!). A learner, then, presumably has a partial grammar of the language, as yet incomplete, and no doubt containing some rules which are partially defective, not yet complete, or absent. Given the possession of lexical items appropriate to a stiuational stimulus, and at least some of the rules needed to combine them into an appropriate and grammatical utterance in response, the learner may issue a sentence which is partially defective. Let us say that within his response he makes two errors involving pluralization because he has not as yet added a complete and accurate rule(s) for pluralization in the language. A training regime which <u>efficiently</u> adds or completes the rule(s) for pluralization will thus efficiently enable him to make similar utterances without errors of pluralization. Since in the present case both training regimes led to learning (let us say, regarding pluralization), and thus reduced the error rate, obviously the more efficient program is that which reduced the error rate most rapidly. The experimental program clearly accomplished this result.

Why? It is believed that the experimental program was more efficient in this regard because it comes closer to tapping the normal human ability to abstract from slight and partial evidence the rules of grammar. This is thoroughly in accord with a generative approach to language, without regard for individual "schools". The degree of freedom allowed the Ss in constructing their own sentences would seem to have increased their attention to the proffered "approved solution" which was given them after they had created their own response. Though the control group did well in responding appropriately to novel (though only slightly novel) stimuli, and very well indeed in calling forth previously practiced utterances, one can say that their "internal grammars" of Spanish did not change very much as the result of the audio-lingual training. In the case of the experimental group, however, somehow their grammars were changed significantly, even in such a brief period. In a theoretical sense, then, some of their rules were amended, completed, added, or perhaps recalled, - as a result of the training session. If this is accepted as a reasonable interpretation of the results, then one feels free to assert that language training programs less tightly structured, less bound to pattern drill and rote repetition, and making increased use of the notion of training geared to the generation of "original" utterances (with adequate offering of correct models) is superior.

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APPENDIX A

INSTRUCTIONS: This is a lesson in Spanish. It is a test of your ability to learn to communicate effectively in given situations. You will be given a brief test to see how well you can do. Then you will receive a period of instruction followed by another test.

GROUP A

I. LESSON A: Now you will hear some Spanish sentences. Repeat them in the pauses provided. Each sentence corresponds to a statement being made by one of the persons in the slide. Focus your attention on both the language and the situation. Repeat each Spanish sentence aloud.

(1) Vamos al parque.

(2) Voy a nadar en el parque.

(3) Voy a Acapulco.

(4) Vamos a jugar al tenis en Acapulco.

(5) Vamos a la tienda.

(6) Vamos a la escuela.

(7) Voy a la casa.

II. Now you will see a slide illustrating a Spanish sentence. You will hear a question, then an appropriate response. Repeat the answer <u>aloud</u> <u>twice</u> in the space provided. Repeat it <u>exactly</u> as you hear it.

(1) ¿Adónde van ustedes?

Vamos al parque.

(2) ¿Adónde va usted?

Voy a nadar en el parque.

(3) ¿Adónde va usted?

Voy a Acapulco.

(4) ¿Adónde van ustedes?

Vamos a jugar al tenis en Acapulco.

(5) ¿Adónde van ustedes?

Vamos a la tienda.

(6) ¿Adónde van ustedes?

Vamos a la escuela.

(7) ¿Adónde va usted?

Voy a casa.

III. The following activity illustrates restatement in indirect form. For example, the boy in the slide might say, "Voy a la escuela." The restatement would be, "El muchacho dice que va a la escuela." As you see a slide you will hear a sentence said by a person in the picture. Then you will hear a question and an answer. Repeat the answer aloud twice.

(1) Vamos a nadar.

¿Qué dicen las muchachas?

Las muchachas dicen que van a nadar.

(2) Voy a nadar en el parque.

¿Qué dice el muchacho?

El muchacho dice que va a nadar en el parque.

(3) Voy a Acapulco.

¿Qué dice el hombre?

El hombre dice que va a Acapulco.

(4) Vamos a jugar al tenis en Acapulco.

¿Qué dicen la muchacha y la mujer?

La muchacha y la mujer dicen que van a jugar al tenis en Acapulco.

(5) Voy a la tienda.

¿Qué dice la mujer?

La mujer dice que va a la tienda.

IV. You will hear a question concerning a situation illustrated in a slide. Then you will hear a statement that answers the question. Repeat the answer aloud twice.

(1) ¿Adónde van el hombre y el muchacho?

El hombre y el muchacho van a nadar.

(2) ¿Adónde van las muchachas?

Las muchachas van al parque.

(3) ¿Adónde van el hombre y la mujer?

El hombre y la mujer van a Acapulco.

(4) ¿Adónde van la muchacha y la mujer?

La muchacha y la mujer van a jugar al tenis.

(5) ¿Adónde van la mujer y el muchacho?

La mujer y el muchacho van a la tienda.

(6) ¿Adónde va el hombre?

El hombre va a la casa.

V. You will hear three questions about each slide. After each question you will hear an answer. Repeat the answer aloud twice.

(1) a. ¿Con quién va a nadar el muchacho?

Va a nadar con el hombre.

b. ¿Con quién va a nadar el hombre?

El hombre va a nadar con el muchacho.

c. ¿Quiénes van a nadar?

El hombre y el muchacho van a nadar.

(2) a. ¿Con quiénes va al parque la muchacha?

La muchacha va al parque con las otras muchachas.

b. ¿Con quién van al parque las otras muchachas.

Las otras muchachas van al parque con su amiga.

c. ¿Quiénes van al parque?

Las muchachas van al parque.

(3) a. ¿Con quién va a Acapulco el hombre?

El hombre va a Acapulco con la mujer.

b. ¿Con quién va a Acapulco la mujer?

La mujer va a Acapulco con el hombre.

c. ¿Quiénes van a Acapulco?

El hombre y la mujer van a Acapulco.

(4) a. ¿Con quién va a jugar al tenis la mujer?

La mujer va a jugar al tenis con la muchacha.

b. ¿Con quién va a jugar al tenis la muchacha.

La muchacha va a jugar al tenis con la mujer.

c. ¿Quiénes van a jugar al tenis?

La muchacha y la mujer van a jugar al tenis.

(5) a. ¿Con quién va a la tienda el muchacho?

El muchacho va a la tienda con la mujer.

b. ¿Con quién va a la tienda la mujer?

La mujer va a la tienda con el muchacho.

c. ¿Quiénes van a la tienda?

La mujer y el muchacho van a la tienda.

VI. You will see slides illustrating activities of people and/or their destinations. You will hear two questions about each slide. Each question is followed by an answer. Repeat the answer aloud twice.

(1) a. ¿Adónde van?

Van al parque.

b. ¿Quiénes van al parque?

El hombre y el muchacho van al parque.

(2) a. ¿Adónde van?

Van a nadar en el parque.

b. ¿Quiénes van a nadar en el parque?

Las muchachas van a nadar en el parque.

(3) a. ¿Adónde van?

Van a Acapulco.

b. ¿Quiénes van a Acapulco?

El hombre y la mujer van a Acapulco.

(4) a. ¿Adónde van?

Van a jugar al tenis.

b. ¿Quiénes van a jugar al tenis?

La muchacha y la mujer van a jugar al tenis.

VII. The following slides illustrate what the people in them are going to do immediately, and what they are going to do afterwards. You will hear three questions about each slide. After each question you will hear an answer. Repeat each answer aloud twice.

(1) a. ¿Adónde va el muchacho?

El muchacho va al parque.

b. ¿Qué va a hacer el muchacho después?

Después va a jugar al tenis.

c. ¿Adónde va el muchacho y que va a hacer después?

El muchacho va al parque y después va a jugar al tenis.

Lesson B:

I. : Now you will hear some Spanish sentences. Repeat them in the pauses provided. Each sentence corresponds to a statement being made by one of the persons in the slide. Focus your attention on both the language and the situation. Repeat each Spanish sentence aloud.

(1) Vamos al parque.

(2) Voy a nadar en el parque.

(3) Voy a Acapulco.

(4) Vamos a jugar al tenis en Acapulco.

(5) Vamos a la tienda.

(6) Vamos a la escuela.

(7) Voy a la casa.

II Now you will be asked a question concerning the situation illustrated in the slide. Answer the question in Spanish as if you were one of the persons in the slide. After a pause you will hear a statement that answers the question. Repeat it aloud to help you remember.

(1) ¿Adónde van ustedes?

Vamos al parque.

(2) ¿Adónde va usted?

Voy a nadar en el parque.

(3) ¿Adónde va usted?

Voy a Acapulco.

(4) ¿Adónde van ustedes?

Vamos a jugar al tenis en Acapulco

(5) ¿Adónde van ustedes?

Vamos a la tienda.

(2) a. ¿Qué van a hacer las muchachas?

Las muchachas van a nadar.

b. ¿Qué van a hacer después?

Después van a jugar al tenis.

c. ¿Adónde van las muchachas y luego que van a hacer?

Las muchachas van a nadar y luego van a jugar al tenis.

(3) a. ¿Con quién va el hombre a Acapulco?

El hombre va con la mujer.

b. ¿Después de llegar en Acapulco, ¿qué van a hacer?

Después de llegar el hombre y la mujer van a nadar.

c. ¿Con quién va el hombre a Acapulco, ¿y qué van a hacer cuando lleguen?

(4) a. ¿Adónde van las mujeres?

Las mujeres van a la tienda.

b. ¿Y qué van a hacer después?

Después van a casa.

c. ¿Adónde van las mujeres y que van a hacer después?

Las mujeres van a la tienda y luego van a casa.

(5) a. ¿Con quién va el muchacho al cine?

El muchacho va al cine con la muchacha.

b. ¿Después de ir al cine, qué van a hacer?

Después van a jugar al tenis.

c. ¿Con quién va el muchacho al cine y después qué van a hacer?

El muchacho va al cine con la muchacha y después van a jugar al tenis.

(6) ¿Adónde van ustedes?

Vamos a la escuela.

(7) ¿Adónde va usted?

Voy a casa.

III The following activity requires restatement in indirect form. For example, the boy in the slide might say, "Voy a la escuela." Then you would be asked the question, "Qué dice el muchacho?" You might respond, "El muchacho dice que va a la escuela." After a pause during which you will respond, you will hear a statement that answers the question. Repeat it aloud.

(1) Vamos a nadar.

¿Qué dicen las muchachas?

Las muchachas dicen que van a nadar.

(2) Voy a nadar en el parque.

¿Qué dice el muchacho¿

El muchacho dice que va a nadar en el parque.

(3) Voy a Acapulco.

¿Qué dice el hombre?

El hombre dice que va a Acapulco.

(4) Vamos a jugar al tenis en Acapulco.

¿Qué dicen la muchacha y la mujer?

La muchacha y la mujer dicen que van a jugar al tenis en Acapulco.

(5) Voy a la tienda.

¿Qué dice la mujer?

La mujer dice que va a la tienda.

IV Again you will be asked questions about a situation illustrated in the slide. Make your answers as complete as possible. After a pause during which you will respond, you will hear a statement ahat answers the question. Repeat it aloud.

(1) ¿Adónde van el hombre y el muchacho?

El hombre y el muchacho van a nadar?

(2) ¿Adónde van las muchachas?

Las muchachas van al parque.

(3) ¿Adónde van el hombre y la mujer?

El hombre y la mujer van a Acapulco.

(4) ¿Adónde van la muchacha y la mujer?

La muchacha y la mujer van a jugar al tenis.

(5) ¿Adónde van la mujer y el muchacho?

La mujer y el muchacho van a la tienda.

(6) ¿Adónde va el hombre?

El hombre va a la casa.

V The following questions ask you who is going to do what with whom. You will hear three questions about each slide. Answer each one completely in the pause provided. After the pause during which you will respond, you will hear a statement that answers the question. Repeat it aloud.

(1) a. ¿Con quién va a nadar el muchacho?

Va a nadar con el hombre.

b. ¿Con quién va a nadar el hombre?

El hombre va a nadar con el muchacho.

c. ¿Quiénes van a nadar?

El hombre y el muchacho van a nadar.

(2) a. ¿Con quiénes va al parque la muchacha?

La muchacha va al parque con las otras muchachas.

b. ¿Con quién va al parque las otras muchachas?

Las otras muchachas van al parque con su amiga.

c. ¿Quiénes van al parque?

Las muchachas van al parque.

(3) a. ¿Con quién va a Acapulco el hombre?

El hombre va a Acapulco con la mujer.

b. ¿Con quién va a Acapulco la mujer?

La mujer va a Acapulco con el hombre.

c. ¿Quiénes van a Acapulco?

El hombre y la mujer van a Acapulco.

(4) a. ¿Con quién va a jugar al tenis la mujer?

La mujer va a jugar al tenis con la muchacha.

b. ¿Con quién va a jugar al tenis la muchacha?

La muchacha va a jugar al tenis con la mujer.

c. ¿Quiénes van a jugar al tenis?

La muchacha y la mujer van a jugar al tenis.

(5) a. ¿Con quién va a la tienda el muchacho?

El muchacho va a la tienda con la mujer.

b. ¿Con quién va a la tienda la mujer?

La mujer va a la tienda con el muchacho.

c. ¿Quiénes van a la tienda?

La mujer y el muchacho van a la tienda.

VI This time attention will be focused either on the people in the slides or on their particular destinations. Answer the questions appropriately. After the pause during which you will respond, you will hear a statement that answers the question. Repeat it aloud.

(1) a. ¿Adónde van?

Van al parque.

b. ¿Quiénes van al parque?

El hombre y el muchacho van al parque.

(2) a. ¿Adónde van?

Van a nadar en el parque.

b. ¿Quiénes van a nadar en el parque?

Las muchachas van a nadar en el parque.

(3) a. ¿Adónde van?

Van a Acapulco.

b. ¿Quiénes van a Acapulco?

El hombre y la mujer van a Acapulco.

(4) a. ¿Adónde van?

Van a jugar al tenis.

b. ¿Quiénes van a jugar al tenis?

La muchacha y la mujer van a jugar al tenis.

The following questions ask you what the people in the slides are going to do immediately, and then what they are going to do afterwards. Each picture will be accompanied by three questions. Answer each one. After your answer you will hear a statement that answers the question. Repeat it aloud.

(1) a. ¿Adónde va el muchacho? --

El muchacho va al parque. --

b. ¿Qué va a hacer el muchacho después?

Después va a jugar al tenis.

c. ¿Adónde va el muchacho y que va a hacer después?

El muchacho va al parque y después va a jugar al tenis.

(2) a. ¿Qué van a hacer las muchachas?

Las muchachas van a nadar.

b. ¿Qué van a hacer después?

Después van a jugar al tenis.

c. ¿Adónde van las muchachas y luego que van a hacer?

Las muchachas van a nadar y luego van a jugar al tenis.

(3) a. ¿Con quién va el hombre a Acapulco?

El hombre va con la mujer.

b. Después de llegar en Acapulco, ¿qué van a hacer?

Después de llegar en Acapulco, el hombre y la mujer van a nadar.

c. ¿Con quién va el hombre a Acapulco, y que van a hacer cuando lleguen?

El hombre va a Acapulco con la mujer, y después de llegar van a nadar.

(4) a. ¿Adónde van las mujeres?

Las mujeres van a la tienda.

b. ¿Y qué van a hacer después?

Después van a casa.

c. ¿Adónde van las mujeres y que van a hacer después?

Las mujeres van a la tienda y luego van a casa.

(5) a. ¿Con quién va el muchacho al cine?

El muchacho va al cine con la muchacha.

b. Después de ir al cine, ¿qué van a hacer?

Después van a jugar al tenis.

c. ¿Con quién va el muchacho al cine y después qué van a hacer?

El muchacho va al cine con la muchacha, y después van a jugar al tenis.

APPENDIX B

CONTENT OF STIMULUS SLIDES

1. Man and boy, going swimming in park.
2. Man going swimming.
3. Man, going to Acapulco.
4. Two men, going to play tennis in Acapulco.
5. Two men, going into store.
6. Two girls, going to school.
7. Man's hand, ringing doorbell.
8. Two men, going to play tennis.
9. Boy, going swimming in park.
10. Man, hitchhiking to Acapulco.
11. Girl and woman, going to play tennis in Acapulco.
12. Two women going into store.
13. Two girls, going into school.
14. Man going into house.
15. Two girls going swimming.
16. Boy going swimming in park.
17. Man, hitchhiking to Acapulco.
18. Girls and woman, going to play tennis in Acapulco.
19. Woman going into store.
20. Man and boy going swimming in park.
21. Two girls going to park.
22. Woman and man in car, going to Acapulco.
23. Two women, have played tennis, in Acapulco.
24. Woman and boy going to store.
25. Man's hand, ringing doorbell.

26. Man and boy going swimming in park.
27. Three girls going to park.
28. Woman and man in car, going to Acapulco to swim.
27. Woman and girls, have played tennis in Acapulco.
28. Woman and boy going into store.
29. Man and boy entering park in Acapulco.
30. Two girls, going swimming in park.
31. Woman and man, in car, going to Acapulco to play tennis.
32. Woman and girl playing tennis in Acapulco.
33. TWO PART: Boy going to park; boy going to play tennis.
34. TWO PART: Two girls going swimming; two tiny girls to play tennis.
35. Woman and man in car, going to Acapulco.
36. TWO PART: Two women going into store; two women going into house.
37. TWO PART: Boy and girls going to movie; boy and girl playing tennis.

N.B. It should be noted that two part stimuli count as two. Further, character depicted as "boy", "woman", etc., are frequently pictures of different individuals.

APPENDIX C

Pre-test: This is a test. You will see a slide illustrating a situation. Please comment on the situation in Spanish according to the instructions that you will receive with each slide. Please speak clearly and directly into the microphone. You will be graded on the accuracy, fluency, and appropriateness of your comments and answers.

1. (A man, a boy, and a woman are going to the park.) Pretend that you are a bystander to the scene in the slide. Tell where the people are going, and what they are going to do afterwards. Tell also who is going with whom. You have 30 seconds. Begin. (flick slide on)

2. = (A man and woman going to the store.)

This time pretend that you are listening to the conversation taking place between the people in the picture. Make up a dialogue for them. You have 60 seconds to tell what they are saying. Begin.

3. (A boy and some men are going to the park to swim.)

This time pretend that you are one of the persons in the picture. Tell in Spanish where you are going, and what you are going to do. You have 30 seconds.

4. Answer the questions about the picture in the pause after each question. There will be three questions after the picture. You will have several seconds to answer each. Answer as quickly and completely as you can.

(A boy and some girls are going to play tennis.)

(a) ¿Adónde van?

(b) ¿Quiénes van?

(c) ¿Con quiénes va el muchacho?

5. You will be asked a question about the following slide. Answer it as completely as you can. You will have 20 seconds.

(Some women are going to the store, and then they are going to return home.)

¿Adónde van las mujeres y que van a hacer después?

APPENDIX D

Post-test: This is a test. You will see a slide illustrating a situation. Please comment in Spanish on the situation according to the instructions that you will receive with each slide. You will be graded on the accuracy, fluency, and appropriateness of your comments and answers.

I. (1) (A man and woman going to the store.)
Pretend that you are a bystander to the scene in the slide. Tell where the people are going and what they are going to do afterwards. Tell also who is going with whom. You have 30 seconds. Begin.

(2) (A man and two women going to restaurant and movie.)
As in number (1) describe what is taking place or going to take place in the picture. You have 30 seconds. Begin.

(3) (A man, a boy, and a woman are going to the park.)
Describe what is taking place or going to take place in the picture. You have 30 seconds. Begin.

(4) (A man and a woman on the library steps.)
Describe what is taking place or going to take place in the picture. You have 30 seconds. Begin.

(5) (A group of people going to Acapulco.)
This time pretend that you are listening to the conversation taking place between the people in the picture. Report what each one is saying. You have 60 seconds. Begin.

(6) (Some men are going to the park to play tenis.)
This time pretend that you are one of the persons in

the picture. Tell in Spanish where you are going and what you are going to do. You have 30 seconds.

Answer the questions about the following pictures in the pause after each. There will be three questions after each picture. You will have several seconds to answer. Answer as auickly and completely as you can.

(7) (A boy and some men are going to the park to swim.)

a. ¿Adónde van?

b. ¿Quiénes van?

c. ¿Con quiénes va el muchacho?

(8) (A boy and some girls are going to play tenis.)

a. ¿Adónde van?

b. ¿Quiénes van?

c. ¿Con quién van las muchachas?

(9) (Some girls and a man are going to the store.)

a. ¿Adónde van?

b. ¿Quiénes van?

c. ¿Con quiénes va el hombre?

(10) (Some women and a man are going to the store.)

a. ¿Adónde van?

b. ¿Quiénes van?

c. ¿Con quiénes va el hombre?

You will be asked one question about each of the following slides. Answer it as completely as you can. You will have 20 seconds.

(11) (A boy is going to play tennis in Acapulco.)

¿Adónde va el muchacho y qué va a hacer después de llegar?

(12) (Some women are going to the store and then they are going to return home.)

¿Adónde van las mujeres y qué van a hacer después?

(13) (Some girls are going to the park and then back home.)

¿Adónde van las muchachas y qué van a hacer después de llegar?

(14) (Some boys are going to Acapulco with tennis rackets and swim suits.)

¿Adónde van los muchachos y qué van a hacer después de llegar?

(15) (A large group of people is going to the park. They are carrying swim suits, tennis rackets, etc.)

¿Adónde van y qué van a hacer después de llegar?